



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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AF

Re Application of:

Vogler et al.

Serial No.: 10/646,483

Group Art Unit: 1733

Filed: August 22, 2003

Examiner: John L. Goff II

For: CELLULOSE ESTER BASED PRODUCTS AND METHODS FOR MAKING THEM

Mail Stop AF

Commissioner for Patents

P. O. Box 1450

Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Further to the Notice of Appeal filed in the above-referenced patent application on January 15, 2007, Appellants respectfully submit herewith an Appeal Brief.

Respectfully submitted,

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Jodi L. Owenby

March 8 2007

Date



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APPEAL BRIEF

This is an appeal from the Advisory Action of the Examiner mailed January 5, 2007, rejecting claims 1-5, 8, 9, 11-15 and 17-21. This Brief is accompanied by the requisite fee set forth in 37 C.F.R. § 41.20(b)(2).

REAL PARTY IN INTEREST

The real party in interest is Eastman Chemical Company.

RELATED APPEALS AND INTERFERENCES

Appellants are not aware of any prior or pending appeals, interferences, or judicial proceedings that may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-5, 8-9, 11-15 and 17-21 are pending in the application, and stand rejected. The rejection of these claims is being appealed.

Claims 6, 7, 10, and 16 have been canceled.

Claims 22-35, directed to non-elected inventions, have also been canceled.

A copy of the rejected claims is set out in Appendix A.

STATUS OF AMENDMENTS

The claim amendments filed in the Amendment After Final Rejection mailed November 29, 2006 were entered and considered in the Advisory Action Before the Filing of an Appeal Brief mailed January 5, 2007. No amendments have been filed since receipt of the Advisory Action.

SUMMARY OF CLAIMED SUBJECT MATTER

There are two independent claims in the claims under appeal. Claim 1 is directed to a method of adhering two or more components together, and claim 12 is directed to a method of making a filter.

Claim 1 relates to a method of adhering two or more components together. Support for the preamble of claim 1 may be found, for example, at page 3, lines 18-19 of the application. The method includes a step of exposing to a plasticizing solvent at least one of: i) a first component that includes cellulose ester fibers, and ii) a second component that includes paper comprising cellulose and having a cellulose ester incorporated therein. Support for this step may be found, for example, at page 3, lines 20-21 and lines 26-27; at page 6, lines 22-23; and at page 8, lines 9-11 and 25-31. The method includes a further step of contacting the first component and the second component together to form a compound structure. Support for this step can be found, for example, at page 3, lines 22-23. The method of claim 1 includes yet another step, that of curing the compound structure so that the first component and the second component become adhered together. Support for this step may be found, for example, at page 3, lines 23-24.

Independent claim 12 relates to a method of making a filter. Support for the preamble of claim 12 may be found, for example, at page 4, lines 21-22; and at page 7, lines 12-13. The method of claim 12 includes a step of exposing an aggregation of cellulose ester fibers to a plasticizing solvent. Support for this step may be found, for example, at page 4, lines 27-29; and at page 7, lines 13-15. The method includes a further step of contacting the aggregation of cellulose ester fibers exposed to the plasticizing solvent with a cellulose ester-containing substrate comprising paper having a cellulose ester incorporated therein. Support for this step may be found, for example, at page 7, lines 15-17; at page 6, lines 22-23; and at page 8, lines 9-11 and 25-31. The method of claim 12 includes yet another step, that of curing the aggregation of cellulose ester fibers contacted to the substrate so that the substrate is adhered to the aggregation of cellulose ester fibers. Support for this step may be found, for example, at page 7, lines 15-18.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection presented for review are:

rejection of claims 1-5, 8, 11-14, and 17-21 under 35 U.S.C. § 103(a) as being unpatentable over Cobb (U.S. Pat. No. 3,025,861, "Cobb '861") in view of McIntosh (U.S. Pat. No. 1,631,750) and Pearman (U.S. Pat. No. 3,426,764); and

rejection of claims 9 and 15 under 35 U.S.C. §103(a) as being unpatentable over Cobb '861, McIntosh, and Pearman as applied to claim 1-5, 8, 11-14, and 17-21, and further in view of Cobb et al. (U.S. Pat. No. 3,106,501, "Cobb '501").

ARGUMENTS

Rejection of claims 1-5, 8, 11-14, and 17-21 under 35 U.S.C. § 103(a) as being unpatentable over Cobb '861 in view of McIntosh and Pearman

The rejection of claims 1-5, 8, 11-14, and 17-21 should be overruled because there is no *prima facie* case of obviousness. Specifically, there is no motivation in the references or the art generally to combine Cobb '861 with McIntosh and Pearman as the Examiner has combined them, save impermissible hindsight based on Appellants' own disclosure. Further, assuming *arguendo* that the references are properly combined, there would be no reasonable expectation that the combination would succeed for the purposes identified in the cited references, and indeed, Appellants submit that the proposed combination would render the cited art unsatisfactory for its intended purpose.

Several basic factual inquiries must be made in order to determine the obviousness or non-obviousness of the claims of a patent application under 35 U.S.C. § 103. These factual inquiries, set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966) (cited in the M.P.E.P. at § 2141), require the Examiner to:

- (1) Determine the scope and content of the prior art;
- (2) Ascertain the differences between the prior art and the claims in issue;
- (3) Resolve the level of ordinary skill in the pertinent art; and
- (4) Evaluate evidence of secondary considerations.

The obviousness or non-obviousness of the claimed invention is then evaluated in view of the results of these inquiries. *Graham*, 383 U.S. at 17-18, 148 USPQ 467.

In order to carry the initial burden of establishing a *prima facie* case of obviousness that satisfies the *Graham* standard, the Examiner must show that the prior art references teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974), cited in the M.P.E.P. at § 2143.03. The Examiner must also show that there is some suggestion or motivation, either in the reference or in the

knowledge generally available to one of ordinary skill in the art, to modify the reference. *In re Rouffet*, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998), cited in the M.P.E.P. at § 2143.01. Further, the suggestion or motivation “must be found in the prior art reference, *not in the Applicant's disclosure.*” *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991)(emphasis added), cited in the M.P.E.P. at §§ 2142 and 2143. The Federal Circuit has explained that “the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (citations omitted).

The threshold for establishing a motivation or suggestion to modify a prior art reference is relatively high. The Federal Circuit has said that the evidence of a motivation or suggestion to modify a reference must be “clear and particular.” 50 USPQ2d at 1617, 175 F.3d at 999. The Examiner can satisfy the burden of establishing a prima facie case of obviousness “only by showing some objective teaching in the prior art[,] or that knowledge generally available to one of ordinary skill in the art[,] would lead that individual to [modify or] combine the relevant teachings of the references.” *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) (citations omitted), cited in the M.P.E.P. at § 2143.01. The Federal Circuit has since reaffirmed the Examiner’s burden to establish a prima facie case of obviousness and emphasized the requirement of specificity. See *Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000), cited in the M.P.E.P. at §2143.01; see also *In re Sang-Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), cited in the M.P.E.P. at §2143.01.

The fact that references *can* be combined or modified does not render the resulting combination obvious in the absence of a suggestion that the combination would be desirable. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990), cited in the M.P.E.P. at 2143.01. A *prima facie* obviousness rejection further requires that there be some reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986), cited in the M.P.E.P. at § 2143.02. The shortcomings of a hindsight approach to obviousness are especially clear when, as with the present rejection, the combination would render the cited pieces of art unsatisfactory for their intended purpose. See *In re Gordon*, 733 F.3d 900, 221 USPQ 1125 (Fed. Cir. 1984), cited in the M.P.E.P. at § 2143.01.

Turning now from the law to the rejection, Cobb '861 discloses paper wrappers, used to wrap cigarette filters, that are coated with an adhesive (column 1, lines 61-63). Among the adhesives suggested is a mixture of cellulose acetate and plasticizer (column 2, lines 8-10 and Example II). The “conventional” wrapping paper described in Cobb '861 has a thickness from 0.0010 to 0.0016 inch, while the “heavier” wrapper paper described is said to have a thickness from 0.0017 inch to 0.0050 inch (col. 5, lines 40-47). These papers are, of course, quite thin, and are typical of papers used as plug wrap paper for cigarette filters.

It was acknowledged in the Final Office Action that Cobb '861 is silent as to the paper having cellulose acetate incorporated therein. The Examiner looks instead to McIntosh for such a teaching, not, Appellants submit, because of a deficiency noted in either of the references or the art generally which would suggest or motivate the combination, but rather simply because the feature is found as an aspect of Appellants' own invention.

McIntosh describes a "paper product" which is hard, durable, compact, and water-proof (page 1, lines 1-7), in which a cellulose ester is added during processing (page 1, lines 20-22). The product is said to be suitable for a wide variety of uses, such as a raw material from which machine elements such as gears, pulleys, or the like may be formed or machined, and also as an electrical insulator, a material for making containers, or other structures which it is desirable shall be unaffected by moisture, oil or other liquids (page 2, lines 10-21). The products described are said to vary from being "somewhat flexible" to resembling vulcanized fiber, that is, being "hard, compact, and mechanically strong" (page 1, lines 49-57).

Cobb '861 has as its object to provide a non-by-passing ribbon-wrapped filament filter, and particularly a paper-wrapped filter (col. 1, lines 51-60), the solution to which is to use a plug wrap paper coated with an adhesive by means of which the outer layer of filaments in the filter elements are made to adhere to the wrapping material (col. 1, lines 61-65). McIntosh has as its objects to make a paper product that will be hard, durable, compact, and waterproof (page 1, lines 4-8), a product that is at most "somewhat flexible" (page 1, lines 49-53), and to make a product that has a smooth, moisture repellant and highly polished surface (page 1, lines 9-11).

While McIntosh describes his product as a "paper product," McIntosh compares his products with "impregnated and laminated materials" made by passing the manufactured paper through a bath of synthetic resin solutions and thereafter heating the solutions under pressure to give uniform and highly polished surfaces (page 1, lines 14-19). McIntosh teaches as an advantage of his invention eliminating the step of "impregnation" in making such products (page 1, lines 31-34).

It was asserted in the Advisory Action, at page 2, last paragraph, that McIntosh "incorporate[es] the resin into the pulp fibers when forming the paper *as opposed to coating* the paper with the resin . . .", and that the product of McIntosh does "not hav[e] to have a step of *coating the paper with the resin* (emphasis added)." Contrary to these assertions, there is, in fact, no reference in McIntosh to an act of coating such as that described in Cobb '861, nor how a coating such as that described in Cobb '861 may be in any way equivalent to the incorporation method described in McIntosh. Indeed, it is not Cobb '861 nor McIntosh which suggests that coating a paper with a cellulose ester may be, for some purposes, functionally equivalent with incorporating the ester into the paper during paper manufacture, but rather Appellants' own disclosure (page 8, lines 9-11; and lines 25-31 of the application as filed).

In reviewing McIntosh for any reference of a coating such as that described in Cobb '861, we see only that McIntosh describes his products as having cellulose ester intimately and uniformly dispersed throughout the fibers *as well as on the surface* (p. 1, lines 25-31, emphasis added), and that sheets of the product may be placed between the heated platens of a press at a pressure of one thousand pounds per square inch at a temperature of one hundred and twenty-five pounds of steam, and the heat and pressure maintained for a time sufficient to cause the cellulose ester to fuse throughout the fibrous mass *and to flow completely over the surface*, forming a *continuous coating* (page 1, lines 72-85, emphases added). There is no suggestion in McIntosh that the "paper products" of that reference might replace a cigarette wrapper paper having a cellulose ester applied as a coating, such as that taught in Cobb '861, nor that the uniform and highly polished surfaces of McIntosh might, for example, serve as a functional replacement for the wrapper paper of Cobb '861 having an adhesive coating applied to it. Simply put, there is no suggestion or motivation in either of the cited references, or in the art generally, to combine the references the way the Examiner has combined them, save Appellants' own disclosure.

Concerning the teachings of the references, there is no mention whatever in McIntosh that the paper product of McIntosh could be used as a plug wrap paper such as that disclosed in Cobb '861, nor of course, would any of the uses of McIntosh suggest that the paper product of McIntosh may be suitably adapted for use as a plug wrap paper as taught in Cobb '861, nor why one would wish to do so. Nor would one expect that the thin plug wrap paper of Cobb '861, whether or not having a cellulose ester coating applied to it, would be useful for any of the purposes suggested in McIntosh.

Indeed, it appears that the "somewhat flexible" paper products of McIntosh could not, in fact, be adapted for use as the plug wrap of Cobb '861, even assuming some motivation to do so, since the lack of flexibility in the paper product of McIntosh would prevent the use contemplated in Cobb '861. Similarly, it is hard to imagine the thin plug wrap paper of Cobb '861 being modified to fill the need cited in McIntosh, that is, for a hard, durable, compact, and waterproof material (page 1, lines 4-8), a product that is at most "somewhat flexible" (page 1, lines 49-53), that has a smooth, moisture repellant and highly polished surface (page 1, lines 9-11), that can be used for a variety of purposes, such as a raw material from which machine elements such as gears, pulleys, or the like may be formed or machined, as an electrical insulator, a material for making containers, or other structures which it is desirable shall be unaffected by moisture, oil or other liquids (page 2, lines 10-21). There is certainly no suggestion in Cobb '861 or McIntosh, nor in the art generally, to do so.

Appellants therefore respectfully submit that Cobb '861 and McIntosh are improperly combined, and that such a combination could only be made using impermissible hindsight, having Appellants' application already in mind, there being no motivation in either reference, or the art generally, to combine the references as the Examiner has combined them, and no reasonable expectation of success in achieving the objectives of either reference, should the references be combined.

The third reference relied upon is Pearman, which describes a paper cigarette filter, that is, a cigarette filter in which *paper* serves as the filtering material. The paper filtering material described has fibers of acylated esters of cellulose incorporated therein, by mixing the fibers with the natural cellulose pulp from which the paper is to be formed (column 2, lines 5-7 and 7-11). There is no other filtering material used in Pearman except paper, such as, for example, the cellulose acetate filaments of Cobb '861.

The Advisory Action asserts that Pearman discloses a paper including cellulose acetate used in a cigarette filter wherein the paper is made in the same manner as in Cobb '861 as modified by McIntosh (page 3, lines 19-22). The Advisory Action further asserts that forming paper including cellulose acetate taught by Cobb '861 as modified by McIntosh using natural cellulose pulp as shown by Pearman would have been obvious for forming a known paper suitable for use in a cigarette filter (page 3, line 22 to page 4, line 4). The deficiencies in combining Cobb '861 with McIntosh have already been noted. Appellants respectfully submit that combining Pearman with the combination previously cited does not overcome these deficiencies.

Appellants respectfully submit further that Pearman likewise cannot properly be combined with either Cobb '861 or McIntosh taken alone.

When Pearman is combined with Cobb '861, we see that Cobb '861 teaches a wrapper paper having an adhesive applied so that the paper adheres to the cellulose acetate filaments used as the filtering material, while Pearman teaches the use of paper *as* the filtering material. Thus, Pearman suggests that the paper itself provides suitable filtration, and that other filtering materials such as the cellulose acetate filaments of Cobb '861 are not required, while Cobb '861 teaches the use of cellulose acetate filaments as the filtering material, with a wrapper paper having an adhesive applied to assist in adhering the paper to the filaments. The paper of Cobb '861 is not the filtering material, but rather is wrapped around the filtering material, and does *not* have fibers of acylated esters of cellulose incorporated in it, nor is there any suggestion seen to so modify the paper of Cobb '861. There would therefore be no reason to combine Cobb '861 with Pearman.

Similarly, there is no suggestion or motivation to combine Pearman with McIntosh, and even if combined, the combination would not serve the purposes for which the products described in McIntosh and Pearman are intended.

We have seen that McIntosh discloses a product suitable for a variety of uses, including as an electrical insulator and as a material for making containers (page 2, lines 10-21), the material being hard, durable, compact, and waterproof (page 1, lines 4-7). Pearman, for its part, teaches the use of paper comprising acylated esters of cellulose (column 2, lines 3-11) for use as a filtration material (column 2, lines 12-15), that allows moisture to pass through it (column 2, lines 47-49). Appellants respectfully submit that there is no motivation or suggestion to combine McIntosh with Pearman, and further submit that the uses of the materials conflict with one another.

The waterproof material of McIntosh suitable for use as a container is clearly unsuitable for use as the filtering material of Pearman, since the waterproof material would prevent moisture, or indeed anything else, from passing through the material. When one considers that pressure drop is an important consideration in designing a proper cigarette filter (Pearman column 1, lines 57-69), it is hard to imagine the waterproof material of McIntosh being used as a filtering material as in Pearman, since one would reasonably expect a waterproof material to substantially impede the flow of cigarette smoke. Even if it were possible to obtain a waterproof material that did not impede the flow of smoke, which seems unlikely, the smoke would then be dry and hot, properties that Pearman intends to avoid (column 1, lines 47-57). There is therefore no reason to think that the paper of either reference might be suitably adapted for use according to the other.

Appellants therefore respectfully submit that Pearman is improperly combined with the combination of Cobb '861 with McIntosh, and that Pearman likewise cannot be combined with either of these references taken alone, and that such a combination could only be made using impermissible hindsight, having Appellants' application already in mind, there being no motivation in the references, or the art generally, to combine the references as the Examiner has combined them, and no reasonable expectation of success in achieving the objectives of either reference, should the references be combined, since the uses conflict.

Appellants therefore respectfully request that the rejection be overruled.

Rejection of Claims 9 and 15 under 35 U.S.C. §103(a) as being unpatentable over Cobb, McIntosh, and Pearman above, and further in view of Cobb et al. (U.S. Pat. No. 3,106,501, Cobb '501)

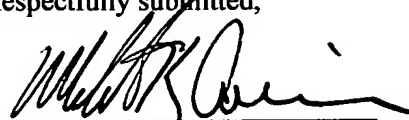
The rejection of claims 9 and 15 under 35 U.S.C. §103(a) should be overruled because there is no *prima facie* case of obviousness.

The deficiencies of the rejection based on Cobb '861, McIntosh, and Pearman have already been addressed, and Appellants respectfully submit that these references taken with Cobb '501 would lead those skilled in the art no closer to the claimed invention. Applicants therefore respectfully request that the rejection of claims 9 and 15 be overruled.

In view of the arguments set forth above, Appellants believe there is no proper basis for the rejection of the claims and request that the rejection be overruled.

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Respectfully submitted,



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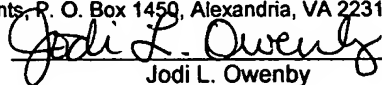
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March 8, 2007
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APPENDIX A
Appealed Claims

1. A method of adhering two or more components together, the method comprising:
 - a) exposing to a plasticizing solvent at least one of:
 - i) a first component that includes cellulose ester fibers, and
 - ii) a second component that includes paper comprising cellulose and having a cellulose ester incorporated therein;
 - b) contacting the first component and the second component together to form a compound structure; and
 - c) curing the compound structure so that the first component and the second component become adhered together.
2. The method of claim 1 wherein the cellulose ester fibers comprise a component selected from the group consisting of cellulose acetate, cellulose propionate, cellulose butyrate, cellulose acetate-propionate, cellulose acetate-butyrate, cellulose propionate-butyrate, and mixtures thereof.
3. The method of claim 1 wherein the cellulose ester fibers comprise cellulose acetate.
4. The method of claim 1 wherein the second component comprises a component selected from the group consisting of cellulose acetate, cellulose propionate, cellulose butyrate, cellulose acetate-propionate, cellulose acetate-butyrate, cellulose propionate-butyrate, and mixtures thereof.
5. The method of claim 4 wherein the second component comprises cellulose acetate.
8. The method of claim 1 wherein the plasticizing solvent is selected from the group consisting of dimethoxy ethyl phthalate, triacetin, polyethylene glycol, triethylene glycol diacetate, diethylene glycol diacetate, diethylene glycol dipropionate, diethylene glycol acetate propionate, diethylene glycol monopropionate, and mixtures thereof.

9. The method of claim 1 wherein the step of exposing at least one of the components to a plasticizing solvent comprises spraying, dipping, brushing, or a combination thereof.

11. The method of claim 1 wherein the first component is adhered to the second component to form a filter.

12. A method of making a filter, the method comprising:

- a) exposing an aggregation of cellulose ester fibers to a plasticizing solvent;
- b) contacting the aggregation of cellulose ester fibers exposed to the plasticizing solvent with a cellulose ester-containing substrate comprising paper having a cellulose ester incorporated therein; and
- c) curing the aggregation of cellulose ester fibers contacted to the substrate so that the substrate is adhered to the aggregation of cellulose ester fibers.

13. The method of claim 12 wherein prior to step b, either the aggregation of fibers, the cellulose ester-containing substrate, or both the aggregation of fibers and the substrate are exposed to one or more additional applications of the same or a different solvent.

14. The method of claim 12 wherein the plasticizing solvent is selected from the group consisting of dimethoxy ethyl phthalate, triacetin, polyethylene glycol, triethylene glycol diacetate, diethylene glycol diacetate, diethylene glycol dipropionate, diethylene glycol acetate propionate, diethylene glycol monopropionate, and mixtures thereof

15. The method of claim 12 wherein the step of exposing the aggregation of cellulose ester fibers to a plasticizing solvent comprises spraying, dipping, brushing, or a combination thereof.

17. The method of claim 12 wherein the step of contacting the aggregation of cellulose ester fibers with a substrate comprises wrapping the aggregation of cellulose ester fibers with the substrate.

18. The method of claim 17 wherein the filter is a cigarette filter.

19. The method of claim 12 wherein the cellulose ester-containing substrate comprises a component selected from the group consisting of cellulose acetate, cellulose propionate, cellulose butyrate, cellulose acetate-propionate, cellulose acetate-butyrate, cellulose propionate-butyrate, and mixtures thereof.

20. The method of claim 12 wherein the cellulose ester-containing substrate comprises cellulose acetate.

21. The method of claim 12 wherein the cellulose ester fibers comprise cellulose acetate.

APPENDIX B
Evidence

None.

APPENDIX C
Related Proceedings

None.